

**REMARKS**

Applicant concurrently files herewith a Petition and fee for a Two-Month Extension of Time and an Excess Claim Fee Payment Letter and fee for excess claims.

Applicant again thanks the Examiner for the courteous and productive personal interview of December 19, 2002, in which the invention, claims and prior art were discussed.

Claims 1-22 are all of the claims presently pending. New claims 21-22 have been added to more completely define the invention.

Claims 8-14 and 16-18 are allowed. Applicant gratefully acknowledges the Examiner's indication that claims 3-7 would be allowable if rewritten in independent form. Applicant reserves the right to rewrite these claims at a later date to overcome this rejection and place claims 3-7 into condition for allowance.

As noted in the Examiner Interview Summary Record, a new reference (e.g., Kamioka) thought to be relevant to claims 1 and 15 was found and is the only reference in the prior art rejection of claims 1, 2, 15, 19 and 20 of the application.

Specifically, claims 1- 2, 15, and 19-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kamioka et al. (U.S. Patent No. 5,831,951).(hereinafter "Kamioka").

This rejection is respectfully traversed in the following discussion.

**I. THE CLAIMED INVENTION**

Applicant's invention, as defined for example in a non-limiting embodiment of independent claim 1 (and substantially similarly by independent claim 15) is directed to a power control circuit for a laser diode which includes an amplifier circuit producing at an output terminal an output voltage responsive to a voltage difference between a reference voltage and a feedback voltage that is indicative of an optical power generated by the laser diode in response to a driving current flowing therethrough.

The power control circuit also includes a driving circuit which responds to the output voltage to control the driving current so as to make the voltage difference small.

Additionally, as discussed in the Amendment filed on November 29, 2002, a feature of the present invention, in a non-limiting embodiment, is that the amplifier circuit drives the output terminal with a first time constant during a steady operation and with a second time

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constant that is smaller than the first time constant upon initiation before the steady operation.

With such features, an operation mode can be quickly shifted and stabilization in the optical output of a laser diode improved (e.g., see page 8, lines 1-14 and 25-28; page 9, lines 1-9 and 21-27; page 10, lines 1-8; page 12, lines 1-27; and page 13, lines 1-3 of the present application).

The conventional systems, such as those discussed below and in the Related Art section of the present application, do not have such a structure, and fail to provide for such an operation.

Such features are not taught or suggested by any of the cited references.

## **II. THE PRIOR ART REFERENCE**

### **A. The Kamioka Reference**

The Examiner asserts:

*[regarding claims 1, 2, 15, and 19-20] Kamioka disclosed in fig. 5 a control circuit for laser diode, comprising: an amplifier circuit producing at an output terminal and feedback voltage that is indicative of an optical power generated by laser diode (not shown) in response to a driving circuit flowing there through; a driving circuit responding to output voltage to control driving current so as to make voltage difference small; amplifier circuit driving output terminal with a first time constant during a steady operation and with second time second time (sic) constant (See column 4, line 53-58).*

However, Applicant respectfully disagrees.

Specifically, Kamioka teaches a reproduction system for reproducing signals of an optical disk, and more particularly an apparatus which generates an appropriate slice signal for binarizing an analog signal from the optical disk. Although Kamioka discloses that the system has a laser power control circuit by necessity, such a laser power control circuit is incidental to the object of Kamioka and Kamioka is not directed to such a laser power control circuit.

The apparatus for controlling a slice signal in the reproduction information recorded

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in an optical disk is shown in Fig. 1 of Kamioka and its operation is described in column 3, line 62 to column 4, line 18 of the disclosure.

As shown in Fig. 1 of Kamioka, there is an actuator 8, head amplifiers 5, differential amplifier 6, and servo control block 7 forming a servo control loop for focusing and locating the optical pickup 3 in which a laser diode (not shown) is installed. Additionally, head amplifiers 5, differential amplifier 9, equalizer 10, binarization block 11, PLL block 12, and controller 4 form a digital data reproducing system to which the reproduced analog signal from the optical disk is supplied.

Applicant respectfully notes that the circuit indicated in Fig. 5, and asserted by the Examiner to correspond to "*a power control circuit for a laser diode*" of the present invention, is an integrator circuit which is provided as part of the binarization block 11 of Fig. 1.

Thus, contrary to the Examiner's assertions, it is not possible for the binarization block 11 and the integrator circuit to control the driving circuit flowing through the laser diode. Instead, the binarization block 11 performs a binarization function at an endpoint stage in the circuit.

As such, Kamioka does not teach or suggest "*a first amplifier circuit producing at an output terminal thereof an output voltage responsive to a voltage difference between a reference voltage and a feedback voltage that is indicative of an optical power generated by said laser diode on response to a driving current flowing therethrough; and a driving circuit responding to said output voltage to control said driving current so as to make said voltage difference small*" (emphasis Applicant's).

Further, Kamioka does not teach or suggest said amplifier circuit driving said output terminal with a first time constant during a steady operation and with a second time constant that is smaller than said first time constant upon initiation and before said steady operation" (emphasis Applicant's).

For the reasons stated above, independent claim 1 (and substantially similarly independent claim 15) of the claimed invention are fully patentable over Kamioka.

Further, dependent claims 2 and 19-20 when taken in combination with independent claim 1 (and similarly new claims 21-22) define additional novel limitations.

For the reasons stated above, the claimed invention is fully patentable over the cited reference.

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### III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-22, all the claims presently pending in the application, are parentally distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,



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Date: 6/16/03

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